130. (Amended) The method of claim 129, wherein the macromer is selected from the group consisting of ethylenically unsaturated derivatives of poly(ethylene oxide) (PEO), poly(ethlyene glycol) (PEG), poly(vinyl alcohol) (PVA), poly(vinylpyrrolidone) (PVP), poly(ethyloxazoline) (PEOX), poly(amino acids), polysaccharides, and proteins.

131. (Amended) The method of claim 130, wherein the macromer is PEG tetraacrylate.

132. (Amended) The method of claim 130, wherein the polysaccharides are selected from the group consisting of alginate, hyaluronic acid, chondroitin sulfate, dextran, dextran sulfate, heparin, heparin sulfate, heparan sulfate, chitosan, gellan gum, xanthan gum, guar gum, water soluble cellulose derivatives and carrageenan.

D2

133. (Amended) The method of claim 130, wherein the proteins are selected from the group consisting of gelatin, collagen, and albumin.

134. The method of claim 1, wherein the photoinitiator is any dye that absorbs light having a frequency between 320 nm and 900 nm, can form free radicals, is at least partially water soluble, and is non-toxic to the at least one islet cell at the concentration used for polymerization.

135. The method of claim 1, wherein the macromer solution further comprises a primary, secondary, tertiary, or quaternary amine cocatalyst and the photoinitiator is selected from the group of ethyl eosin, eosin Y, flurorescein, 2, 2-dimethoxy, 2-phenylacetophenone, 2-methyl, 2-phenylacetonphenone, camphorquinone, rose bengal, methylene blue, erythosin, phloxime, thionine, riboflavin, and methyl green.

136. The method of claim 1, wherein the geometric shapes are formed by coextrusion of the aqueous macromer solution mixed with the biological material with a non-toxic, non-immunogenic, non-miscible substance capable of maintaining droplet formation.

137. The method of claim 1, wherein the microcapsule is comprised of material selected from the group of alginate, chitosan, agarose, and gelatin.

138. The method of claim 1, wherein the macromer solution further comprises an accelerator to increase the rate of polymerization.

139. (Amended) A method for encapsulation of at least one islet cell encapsulated in a microcapsule, comprising the steps of:

a) coating at least one islet cell encapsulated in a microcapsule with photoinitiator;

D2

b) suspending the at least one coated islet cell encapsulated in a microcapsule in a macromer solution comprised of macromer; and

c) irradiating the suspension with light.

140. (Amended) The method of claim 139, wherein the macromer is a water soluble, ethylenically unsaturated, polymer susceptible to polymerization into water insoluble polymer through interaction of at least two carbon-carbon double bonds.

141. (Amended) The method of claim 140, wherein the macromer is selected from the group consisting of ethylenically unsaturated derivatives of poly(ethylene oxide) (PEO), poly(ethlyene glycol) (PEG), poly(vinyl alcohol) (PVA), poly(vinylpyrrolidone) (PVP), poly(ethyloxazoline) (PEOX), poly(amino acids), polysaccharides, and proteins.

142. (Amended) The method of claim 141, wherein the polysaccharides are selected from the group consisting of alginate, hyaluronic acid, chondroitin sulfate, dextran, dextran sulfate, heparin, heparin sulfate, heparan sulfate, chitosan, gellan gum, xanthan gum, guar gum, water soluble cellulose derivatives and carrageenan.

143. (Amended) The method of claim 141, wherein the proteins are selected from the group consisting of gelatin, collagen, and albumin.